AMENDMENTS

In the Specification

On page 1, after the title, please insert the following paragraph:

--CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Application Serial No. 09/127,195, filed July 31, 1998, which is a divisional of U.S. Application Serial No. 08/327,513, filed October 18, 1994, the disclosures of which are incorporated herein by reference in their entirety.--

In the Claims:

Please cancel claims 1-93. Please add new claims 94-162 as follows:

94. (new) A method of evaluating an array of polymeric materials, the method comprising

preparing an array comprising first and second non-biological organic polymers on a substrate, the first non-biological organic polymer being different from the second non-biological organic polymer, the array being prepared by a method that includes

delivering a first component and a second component of the first non-biological organic polymer to a first region of a substrate,

delivering a first component and a second component of the second non-biological organic polymer to a second region on the substrate,

polymerizing the delivered first and second components of the first non-biological organic polymer to form the first non-biological organic polymer at the first region of the substrate, and simultaneously

polymerizing the delivered first and second components of the second non-biological organic polymer to form the second non-biological organic polymer at the second region of the substrate.

95. (new) The method of claim 94 wherein said non-biological organic polymers are selected from the group consisting of homopolymers, copolymers and higher-ordered polymers.

96. (new) The method of claim 94 wherein said non-biological organic polymers are selected from the group consisting of natural polymers, synthetic polymers, cross-linked polymers and non-cross-linked polymers.

97. (new) The method of claim 94 wherein said non-biological organic polymers are selected from the group consisting of polyurethanes, polyesters, polycarbonates, polyethyleneimines, polyacetates, polystyrenes, polyamides, polyanilines, polyacetylenes and polypyrroles.

98. (new) The method of claim 94 wherein said first component of said first material and said second component of said first material are simultaneously delivered to said first region on said single substrate.

99. (new) The method of claim 94 wherein said first component of said first material and said first component of said second material are simultaneously delivered to said first region and said second region on said single substrate, respectively.

100. (new) The method of claim 94 wherein said first component of said first material and said first component of said second material are the same, but are offered in different concentrations.

101. (new) The method of claim 94 wherein said second component of said first material and said second component of said second material are the same, but are offered in different concentrations.

102. (new) The method of claim 94 wherein the components of said materials are delivered to said first and second regions on said substrate from a dispenser.

103. (new) The method of claim 102 wherein said dispenser is a pipette.

104. (new) The method of claim 102 wherein said dispenser is selected from the group consisting of a pulse pressure ink-jet dispenser, a bubble jet ink-jet dispenser and a slit jet ink-jet dispenser.

105. (new) The method of claim 94 wherein said steps of delivering said components each comprises the following steps:

(i) identifying a reference point on said substrate;

(ii) moving a dispenser of said component a fixed distance and direction from said reference point such that said dispenser is positioned approximately above said first region of said substrate;

(iii) delivering said component to said first region; and

(iv) repeating steps (ii) and (iii) for each remaining component for each remaining region.

106. (new) The method of claim 94 wherein there is a sufficient amount of space between each of said regions on said single substrate such that said components cannot interdiffuse between said regions.

107. (new) The method of claim 94 wherein at least 10 different materials are synthesized on said substrate.

108. (new) The method of claim 94 wherein at least 100 different materials are synthesized on said substrate.

109. (new) The method of claim 94 wherein at least 1000 different materials are synthesized on said substrate.

110. (new) The method of claim 94 wherein at least 10^6 different materials are synthesized on said substrate.

111. (new) The method of claim 94 wherein at least 100 different materials are synthesized on said substrate, and each different material is contained within an area of about 1 cm^2 or less.

112. (new) The method of claim 94, further comprising screening the first and second non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property, a morphological property, a chemical property, an optical property, a magnetic property and an electrical property.

113. (new) The method of claim 112 wherein said property of interest is an optical property.

114. (new) The method of claim 113 wherein said optical property is measured using light scattering techniques.

115. (new) The method of claim 112 wherein said property of interest is a chemical property.

116. (new) The method of claim 112 wherein said array of materials is screened in parallel.

117. (new) The method of claim 112 wherein said array of materials is screened sequentially.

118. (new) The method of claim 112 wherein the array of non-biological organic polymers is screened for a thermal property.

119. (new) The method of claim 112 wherein the array of non-biological organic polymers is screened for a mechanical property.

120. (new) The method of claim 112 wherein the array of non-biological organic polymers is screened for a morphological property.

121. (new) A method for evaluating polymeric materials, the method comprising

delivering one or more monomers of non-biological organic polymers to ten or more regions of a substrate,

simultaneously polymerizing the delivered monomers to form ten or more different non-biological organic polymers on the substrate, and

screening the ten or more non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property, a morphological property, a chemical property, an optical property, a magnetic property and an electrical property.

122. (new) The method of claim 121 wherein the ten or more non-biological organic polymers are homopolymers.

123. (new) The method of claim 121 wherein the ten or more non-biological organic polymers are copolymers.

124. (new) A method for preparing an array of polymeric materials, the method comprising

delivering one or more monomers of a first non-biological organic polymer to a first region on the substrate,

delivering one or more monomers of a second non-biological organic polymer to a second region on the substrate,

polymerizing the delivered monomers of the first non-biological organic polymer, such that the monomers react, without linear, stepwise coupling thereof, to form the first non-biological organic polymer, and simultaneously,

polymerizing the delivered monomers of the second non-biological organic polymer, such that the monomers react, without linear, stepwise coupling thereof, to form the second non-

biological organic polymer, the second non-biological organic polymer being different from the first non-biological organic polymer.

125. (new) The method of claim 124 wherein the first and second non-biological organic polymers are homopolymers.

126. (new) The method of claim 124 wherein the first and second non-biological organic polymers are copolymers.

127. (new) A method for preparing an array of polymeric materials, the method comprising

delivering one or more monomers of a first non-biological organic polymer to a first region on the substrate,

delivering one or more monomers of a second non-biological organic polymer to a second region on the substrate,

polymerizing the delivered monomers of the first non-biological organic polymer, to form the first non-biological organic polymer,

polymerizing the delivered monomers of the second non-biological organic polymer to form the second non-biological organic polymer, and

independently controlling the polymerization reaction conditions at the first region and the second region of the substrate.

128. (new) The method of claim 127 wherein the first and second non-biological organic polymers are homopolymers.

129. (new) The method of claim 127 wherein the first and second non-biological organic polymers are copolymers.

130. (new) The method of claim 127 wherein the delivered first and second components of each of the first and second non-biological organic polymers are simultaneously polymerized.

131. (new) The method of claim 127 wherein the temperatures at the first region and the second region of the substrate are independently controlled.

132. (new) The method of claim 127 wherein the reaction times at the first region and the second region of the substrate are independently controlled.

133. (new) The method of claim 127 wherein the reaction solvents at the first region and the second region of the substrate are independently controlled.

134. (new) The method of claim 127 wherein the reaction conditions are controllably varied between the first region and the second region of the substrate.

135. (new) A method for preparing an array of polymeric materials, the method comprising

forming ten or more different non-biological organic polymers on a substrate, each of the ten or more non-biological organic polymers comprising a first component and a second component, the first component being the same between the ten or more non-biological organic polymers, the polymers being formed by a method that includes

delivering the first component of the ten or more non-biological organic polymers in a gradient of stoichiometries to ten or more regions of the substrate,

delivering the second component of the ten or more non-biological organic polymers to the ten or more regions of the substrate,

polymerizing the delivered first and second components of the ten or more non-biological organic polymers to form the ten or more non-biological organic polymers.

136. (new) The method of claim 135 wherein the second component is the same between the ten or more non-biological organic polymers.

137. (new) The method of claim 135 wherein the second component is the same between the ten or more non-biological organic polymers, and the second component is delivered in a gradient of stoichiometries to the ten or more regions of the substrate.

138. (new) The method of claim 124, further comprising

screening the first and second non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property, a morphological property, a chemical property, an optical property, a magnetic property and an electrical property.

139. (new) The method of claim 138 wherein the first and second regions of the substrate are defined by dimples, wells or vessels, and the first and second non-biological organic polymers are screened in parallel for a property selected from the group consisting of a thermal property, a mechanical property, and a chemical property.

140. (new) The method of claim 127, further comprising:

screening the first and second non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property, a morphological property, a chemical property, an optical property, a magnetic property and an electrical property.

141. (new) The method of claim 140 wherein the first and second regions of the substrate are defined by dimples, wells or vessels, and the first and second non-biological organic polymers are screened in parallel for a property selected from the group consisting of a thermal property, a mechanical property, and a chemical property.

142. (new) The method of claim 135, further comprising:

screening the ten or more non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property, a morphological property, a chemical property, an optical property, a magnetic property and an electrical property.

143. (new) The method of claim 142 wherein the ten or more regions of the substrate are defined by dimples, wells or vessels, and the ten or more non-biological organic polymers are screened in parallel for a property selected from the group consisting of a thermal property, a mechanical property and a chemical property.

144. (new) The method of claim 135 or 142 wherein said delivered components are simultaneously polymerized.

145. (new) The method of claim 124, 127, 138 or 140 wherein at least 10 different materials are synthesized on said substrate.

146. (new) The method of claim 121, 124, 127, 135, 138, 140 or 142 wherein at least 100 different materials are synthesized on said substrate.

147. (new) The method of claim 121, 124 or 138 wherein at least 1000 different materials are synthesized on said substrate.

148. (new) The method of claim 121, 124 or 138 wherein at least 10^6 different materials are synthesized on said substrate.

149. (new) The method of claim 121, 124 or 138 wherein at least 100 different materials are synthesized on said substrate, and each different material is contained within an area of about 1 mm^2 or less.

150. (new) The method of claim 121, 138, 140 or 142 wherein said property of interest is an optical property.

151. (new) The method of claim 121, 138, 140 or 142 wherein said property of interest is a chemical property.

152. (new) The method of claim 121, 138, 140 or 142 wherein said array of materials is screened in parallel.

153. (new) The method of claim 121, 138, 140 or 142 wherein said array of materials is screened sequentially.

154. (new) The method of claim 121, 138, 140 or 142 wherein the array of non-biological organic polymers is screened for a thermal property.

155. (new) The method of claim 121, 138, 140 or 142 wherein the array of non-biological organic polymers is screened for a mechanical property.

156. (new) The method of claim 121, 138, 140 or 142 wherein the array of non-biological organic polymers is screened for a morphological property.

157. (new) The method of claim 121, 124, 127 or 135 wherein at least 100 different materials are synthesized on said substrate, and each different material is contained within an area of about 1 cm^2 or less.

158. (new) The method of claim 94, 121, 124, 127 or 135 wherein the substrate is a plate-type substrate.

159. (new) The method of claim 94, 121, 124, 127 or 135 further comprising pressurizing with a gas during polymerization.

160. (new) A method for evaluating polymeric materials, the method comprising delivering one or more monomers of non-biological organic polymers to two or more regions of a substrate, the two or more regions of the substrate being defined by dimples, wells or vessels, and

simultaneously polymerizing the delivered monomers such that the monomers react, without linear, stepwise coupling thereof, to form two or more different non-biological organic polymers on the substrate,

controllably varying the reaction conditions between the two or more regions of the substrate during polymerization,

pressurizing with a gas during polymerization, and

screening the two or more non-biological organic polymers for a property of interest selected from the group consisting of a thermal property, a mechanical property and a chemical property.

161. (new) The method of claim 160 wherein the substrate is a plate-type substrate having ten or more regions, each region having an area of about 1 cm^2, and at least ten different non-biological polymers are formed on the substrate.

162. (new) The method of claim 160 wherein the reactant components are pressurized under an inert atmosphere during polymerization.